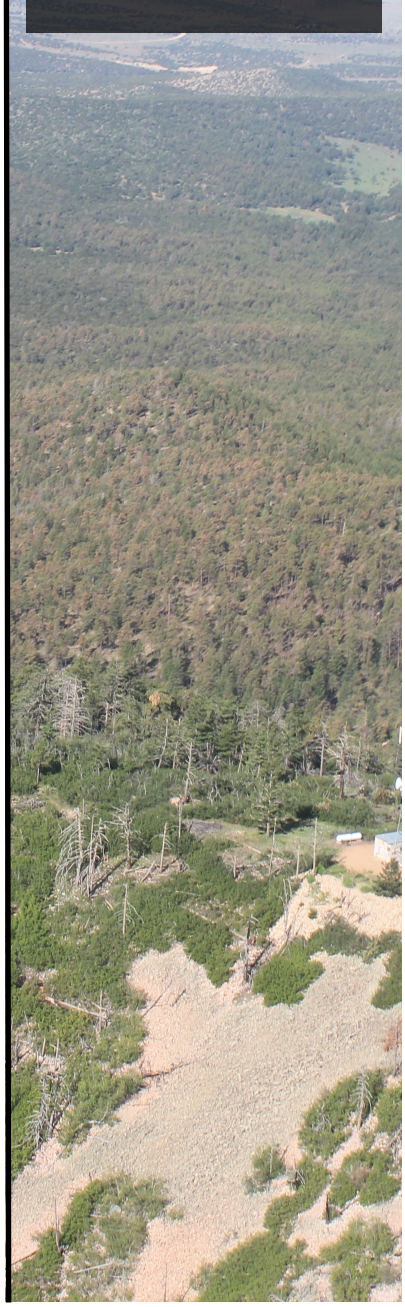
NEW MEXICO FOREST HEALTH HIGHLIGHTS 2021

Produced by the Forest Health Program of the New Mexico Forestry Division

LINKS FOR WEB-BASED NM FOREST HEALTH INFORMATION

2021 NM Forest Health Story Map

2021 NM Forest Health Dashboard



2021 FOREST HEALTH CONDITIONS *AT A GLANCE*

Acres With Bark Beetle-Killed Trees

State and Private Lands
34,530

National Forest Lands
167,360

Tribal Lands
35,510

7th warmest year on record

36th driest year on record

Acres With Defoliation

State and Private Lands
182,390

National Forest Lands
151,400

Tribal Lands
16,760

SUMMARY

In 2021, the number of acres of forest and woodlands mapped with insect, disease, and drought-stress damage increased by 240,000 acres across all land ownership types in New Mexico since 2020. Most of the increase was caused by a rise in bark beetle-caused piñon, ponderosa pine, and Douglas-fir mortality. Damage mapped on state and privately-owned forest and woodlands increased by 51,000 acres or 31% from 2020 levels. Overall, most of the forest and woodland damage mapped in the state in 2021 occurred north of I-40. The Forestry Division's Forest Health Specialist continued to observe increased bark beetle-induced piñon mortality around Santa Fe, Cuba, and within the communities of the East Mountains (e.g. Edgewood). Examinations of the bark beetle-killed piñon trees in these areas found them to be unable to produce adequate pitch (i.e. sap) to repel bark beetle colonization. Consequently, it can be concluded that trees remain severely drought-stressed even though drought conditions improved in the state during 2021. Drought- and bark beetle-related tree mortality may continue to increase throughout the state in 2022 unless drought conditions continue to improve.

DROUGHT AND HEAT IMPACTED TREE HEALTH

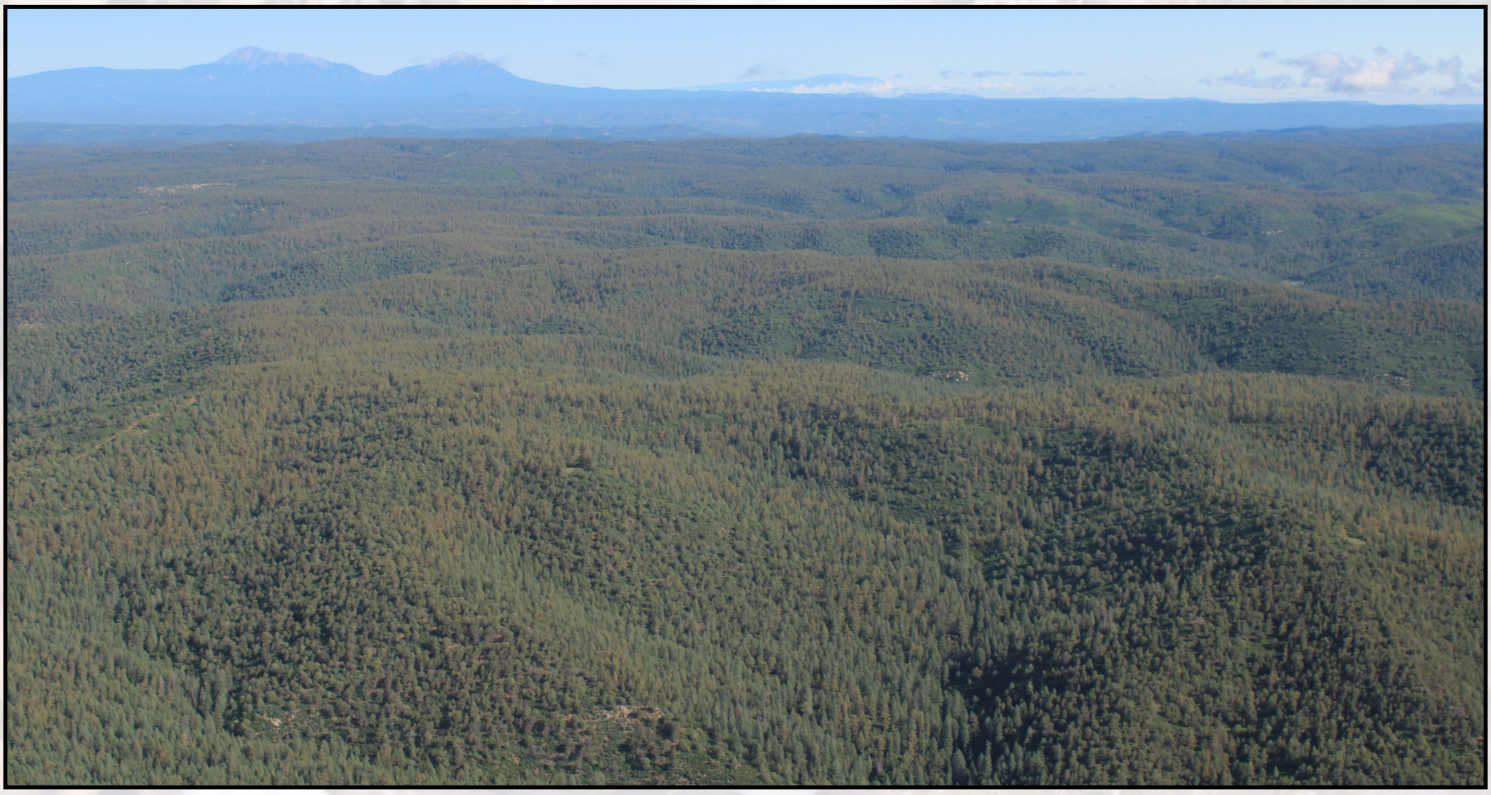
In 2021, approximately 121,000 acres of ponderosa forests were mapped statewide this year with discoloration caused by drought- and heat-related stress. Ponderosa pine naturally sheds old needles every year; however, needles on affected trees are turning yellow months before they do normally. This symptom was a strong indicator of continued drought- and heat-related stress. Most discoloration was mapped on state and private land (35,000 acres), the Carson (26,000 acres) and Gila National Forests (23,000 acres). The discoloration on state and private lands was concentrated to Mora and Colfax counties. Unfortunately, these visually drought-stressed ponderosa forests may experience increased twig beetle activity or bark beetle-induced mortality over the next few years.

NOTABLE FOREST HEALTH ISSUES

Ponderosa Needleminer

(*Coleotechnites ponderosae*)

The tiny caterpillar of this species feeds within needles of ponderosa pine and has caused dramatic visual change over large areas (bottom image below). Feeding damage caused by this insect does not normally lead to tree death, but the damage can stress trees and make them more susceptible to bark beetle attack. This was the fourth year of a large-scale outbreak of this moth species on and around the Vermejo Park Ranch near Raton and acres affected by the species in this area increased to 100,000 acres or over 100% between 2020 and 2021. Additionally, this year, the species continued spreading around the Carson National Forest near Tres Piedras. Large-scale outbreaks are uncommon in New Mexico; however, there were reports of large outbreaks occurring in the northeastern part of the state in the 1980s and 1990s.

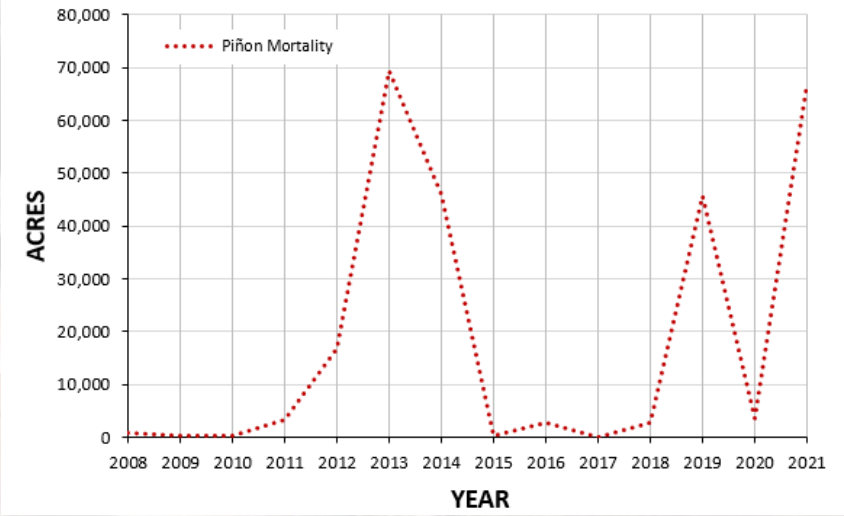


The large-scale ponderosa needleminer outbreak on the Vermejo Park Ranch is in its fourth year, the feeding damage is visible as yellowing foliage

NOTABLE FOREST HEALTH ISSUES

Piñon Ips Bark Beetle

(*Ips confusus*)



Piñon ips has been the most significant mortality agent of piñon in New Mexico and outbreaks of this species have been driven by prolonged drought conditions. In 2021, approximately 67,000 acres with bark beetle-killed piñon were mapped in the state, which was a substantial increase in acres since 2020 and the most mapped since 2013. This increase was most likely influenced by the on-going severe drought conditions. Most of the 2021 acreage was mapped on private land in Sandoval and Cibola counties and in the northern part of the state on Navajo Nation and Bureau of Land Management lands. Most of the remaining mortality was mapped on National Forest and state and private lands south of 1-40. If drought conditions don't improve piñon mortality may continue to increase over the next few years.

Bark beetle-induced piñon mortality observed during 2021 aerial surveys in the East Mountains near Edgewood, NM

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NMSF Forest Health Website

USFS Forest Health Monitoring Website